

Remarks/Arguments:

Claims 1-28, 31 and 33-36 were pending at the time of the Office Action. New claims 37-43 are added herewith, drawing support from the previous claim set as detailed below. No new matter has been added.

Oath/Declaration

Applicants acknowledge the Examiner's observation that the Declaration filed with the application was not executed, and will shortly submit an executed version along with the appropriate fee.

Claim Objections

In view of the Examiner's comments at Section 2 of the office action, claims 2 to 21 and 23 to 28 have been corrected to recite "the film" or "the process", as requested by the Examiner.

35 USC § 112

In view of the Examiner's comments at Section 5 of the office action, independent claims 1, 22, 31, 34, 35 and 36 have been amended by removing the term "about" to render these claims definite.

With regard to the Examiner's comments at Sections 6 and 7 of the office action, claim 16 has been fragmented to generate two additional new claims 37 and 38. New claims 37 and 38 specify the preferred molar ratios of the terephthalic acid component to the isophthalic acid component formerly in claim 16. Similarly, claim 17 has been fragmented to generate two additional new claims 39 and 40.

In view of the Examiner's comments at Section 8 of the office action, the parts of claim 23 previously dependent on claim 3, 11 or 12 now form the basis of new claims 41 to 43. Claims 41 to 43 specify the corresponding features of the unperforated layer or the substrate layer as set out in claims 3, 11 and 12.

In view of the Examiner's comments at Section 9 of the office action, claim 27 now depends on independent claim 22, which renders the claim clear and definite.

In view of the Examiner's comments at Section 10 of the office action, claims 34 and 35 have been amended by introducing the phrase "the step of" in the early portion of the claims to

put them into context. The step of "and further comprising the step of packaging said plants in said film" has also been incorporated, as requested by the Examiner.

35 USC § 103

Claims 1-5, 8-10, 12-15, 20-24, 27 and 36 are rejected under 35 USC § 103(a) as unpatentable over US 4,587,175 ("Akao 175"). Applicants respectfully traverse the rejection, for the following reasons.

An object of the present invention is to provide a breathable, heat sealable packaging, which allows egress of water vapor but which provides a physical barrier to contaminants (see page 2, lines 25 to 28 of the description). The packaging is primarily directed to the packaging of cut vegetables and flowers, but may also find commercial utility in the packaging of ovenable meals. Claim 1 recites a composite film having a perforated substrate layer and an unperforated barrier layer that is no more than 12 μm in thickness. The perforations in the substrate layer allow exit and entry of water vapor, and would also allow exit and entry of contaminants if it were not for the unperforated barrier layer, which prevents this. Importantly, however, the unperforated barrier layer is a water vapor-permeable layer that is thin enough to allow the composite film as a whole to remain breathable.

The Office considers that at least claim 1 is obvious over Akao 175. But as the Office acknowledges, Akao 175 fails to disclose an unperforated barrier layer having a thickness of no more than 12 μm . Rather, Akao 175 teaches a flexible (polyethylene) sheet layer having a thickness of 15 to 120 μm , as disclosed in column 4, line 31 to 32 (and page 5, line 30-33). The rejection also asserts that since Akao 175 teaches use of the same materials as those disclosed in the present application, the "breathability" of the sheet is intrinsic. However, this assertion is incorrect. While similar materials may well be disclosed in Akao 175, the structure of the laminate sheet is quite different from that of the composite film as required by claim 1 of the present application, and it does not disclose a breathable film as required by claim 1. Indeed, this is confirmed by column 1, line 26-28 of Akao 175, which states "In addition, such laminate sheets are expected to offer practical advantages, e.g., be used to control moisture-proofness and gas barrier". Since Akao 175 is directed to "a laminate sheet" (see column 1 line 5 and its title), the film disclosed therein would also be "expected ...to control moisture proofness and gas barrier". Further, the photosensitive products that Akao 175 wishes to package have previously been packaged in sealed metallic containers for transportation. See

column 1 line 25. The skilled artisan would not expect such a container to be breathable. As such, this reference teaches away from the present invention, which recites a breathable film.

Referring to Figures 1 to 6 of Akao 175, in conjunction with column 8, line 56 to column 9, line 14, there is disclosed a laminate sheet having a perforated sheet layer (1) which is laminated on both of its sides with flexible sheet layers (2) and (2'). The flexible sheets (2)/(2') are connected by way of an adhesive layer (3) which flows into apertures (A) in the perforated sheet (1) to define an additional adhesive layer (3'). The sole function of the perforations in the perforated sheet layer (1) is to allow the adhesive to flow therethrough so that the flexible sheet layers (2)/(2') can be connected thereby contacting the sandwiched perforated sheet layer (1). Unlike the composite film of claim 1 of the present application, the laminate sheet of Akao 175 does not provide perforations designed to provide breathability – that is, it does not provide a film which allows egress of moisture and excreted gas, particularly moisture from the packaged product but which provides a physical barrier to insects, bacteria and airborne contaminants (page 2, line 25 to 28 of the description). Since the laminated sheet of Akao 175 occludes the perforations with adhesive, the sheet cannot be considered to be “breathable” since it is not designed to allow the egress of moisture, as required by claim 1 of the present application. It should be noted that the present application describes on page 11, line 15 to 22 that “the barrier layer does not substantially extend into or fill the perforations”. Given that Akao 175 fails to disclose all the features of claim 1, it is submitted that one skilled in the art would not only have been provided with no teaching to arrive at the present invention as defined in claim 1, but moreover he would not even have consulted Akao 175 since the respective structures are so different. For these reasons, it is submitted that Akao 175 cannot support *prima facie* obviousness of the present claims, either taken alone or in combination with the other cited art.

Alternatively, Applicant respectfully contends that Akao 175 cannot be used in an obviousness rejection because it is not analogous to applicant's invention. There are two bases for holding prior art analogous for an obviousness determination: 1) art from same field of endeavor regardless of problem addressed, or 2) art from different fields addressing the same problem. *State Contracting & Engineering Corp. v. Condotte America, Inc.*, 68 USPQ2d 1481 (Fed. Cir. 2003) (reversing district court's holding of non-obviousness and remanding because record presents a factual question as to whether the reference is analogous art); *Wang Laboratories, Inc. v. Toshiba Corp.*, 26 USPQ2d 1767 (Fed. Cir. 1993).

The field of endeavor of the present invention pertains to breathable packaging. It particularly pertains to packaging adapted to vegetables and cut flowers. "Nevertheless, fresh-cut flowers and vegetables have a limited shelf life due to fundamental changes in their biochemistry. Whilst in soil, photosynthesis allows the plant to grow and expire oxygen. However, after harvesting, the plant no longer converts sunlight and carbon dioxide into carbohydrates and oxygen, but uses its stores of carbohydrate to excrete water and carbon dioxide. ... Vegetables having a high moisture content, such as broccoli and mushrooms, are particularly susceptible. It would be desirable to provide packaging which not only provides a barrier to insects, bacteria and air-borne contaminants but which is also breathable to water (in other words, a film which would allow water to freely pass out of the packaging), thereby increasing the shelf life of the contents by delaying the onset of microbial and fungal growth." See application page 1, lines 10-26. Thus, an important problem to be solved in this field of endeavor is how to provide breathability and yet afford a barrier against contaminants.

Akao 175 does not describe films which are in the same field of endeavor as the present invention, nor do his films address the same problems as the present invention. The field of endeavor of Akao 175 is packaging photosensitive materials. See column 1 lines 5-7. He summarizes the problems addressed in this endeavor as follows. "The properties required for many packaging materials including photosensitive materials are that they are hard to break and curl, have large impact resistance and flexibility, are susceptible to heat sealing for sealing, and the like. The realization of cheap, sealable, seal-packageable and difficult-to-curl laminates having improved tensile strength, Gelbo test strength, drop strength and resistance to impact without deteriorating certain properties such as cushioning, flatness and slip properties would lead to opening up new avenues for use, for instance, finding use in the packaging of photosensitive materials with such laminate sheets ...". See column 1 lines 12-24. "The present invention has for its object to improve such packaging materials and, further, provide practical laminate sheets." See column 1 lines 36-38. To address these problems, Akao 175 discloses "an at least three layer-laminated sheet including flexible sheet layers laminated on both sides of a perforated sheet layer, wherein an adhesive (layer) is applied on only one of said two flexible sheet layers so as to bond said one flexible sheet layer to the other flexible sheet layer ... through the apertures in said perforated sheet." See column 1 lines 40-47, emphasis added.

Therefore, Akao 175 is neither directed to the same field of endeavor as the claimed invention nor addresses the same problems with which the claimed invention is concerned. Consequently, Akao 175 is not analogous art and cannot be used in an obviousness rejection. For this additional reason, the rejection should be withdrawn.

Claims 1-10, 12-15, 20-24, 27, 28 and 36 are rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 4,661,401 ("Akao 401").

For the reasons noted above, Akao 175 cannot be used in an obviousness rejection of the present invention because it deals with non-analogous art. For this reason alone, the rejection should be withdrawn. But the combination of Akao 175 and Akao 401 also fails to support *prima facie* obviousness for other reasons as well, as will now be explained.

Akao 401 is concerned with a laminated film comprising a foamed sheet (1) having a molecularly-oriented thermoplastic resin film layer laminated on to one of its sides and a polyethylene (L-LDPE) film layer laminated on to its other side. The laminated film is presented as being markedly improved compared with known films in respect of tear strength, heat-seal strength and gelbo test strength, as seen in column 9, line 12 to 15.

The rejection asserts that "One of ordinary skill ... would be motivated to modify the invention of Akao 175 with that of Akao 401 because Akao 175 ... would benefit from the improved resistance to impact without reduction of cushioning of Akao 401 (401 column [1] lines 15-20)." See Office Action at 25. The rejection does not explicitly state what aspect of Akao 401 would have been obvious to use in Akao 175. Applicants believe that the Examiner means to propose using a foamed layer as disclosed in Akao 401 in place of the perforated sheet of Akao 175, and request clarification if that is not the Examiner's meaning. Applicants note that, alternatively, adopting the thinner (5-120 μm) L-LDPE layer discussed by Akao 401 in place of the 15-120 μm of Akao 175 would not be expected to improve impact resistance (the purported motive advanced by the Examiner).

While Akao 401 discloses a foam sheet (1), he does not disclose a perforated layer. Therefore, modifying Akao 175 by replacing the perforated layer with the a foamed one does not produce the claimed invention, which recites a perforated layer. It is also worth noting that there is no evidence that the resulting structure would provide breathability, as also recited in the present claims. Thus, for this additional reason, *prima facie* obviousness has not been established, and the rejection should be withdrawn.

Claim 11 is rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 4,918,156 ("Rogers").

Claim 16 is rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 6,787,630 ("Dominguez").

Claim 17 is rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 4,450,250 ("McConnell").

Claims 18 and 19 are rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 4,172,824 ("Harrington").

Claims 25 and 26 are rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 6,143,818 ("Wang").

Claims 31, 34 and 35 are rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 5,832,699 ("Zobel").

Claim 33 is rejected under 35 USC § 103(a) as unpatentable over Akao 175 in view of US 6,441,340 ("Varriano").

All of these claims depend from claim 1, and their rejections should therefore be withdrawn for the same reasons as elaborated above with respect to claim 1.


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Conclusion

Applicants submit that the rejections have been overcome, and respectfully request reconsideration and early notice of same. Applicants invite the Examiner to contact their undersigned representative, Frank Tise, if it appears that this may expedite examination.

Respectfully submitted,


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